

BUREAU OF LAND MANAGEMENT
MINERAL ASSESSMENT IN ALASKA
May 2002
TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION	2
MINERAL ASSESSMENTS.....	2
PRIORITIZATION OF MINING DISTRICT STUDIES	4
HIGHEST-RANKING NEWLY PRIORITIZED MINING DISTRICTS.....	8
Aniak.....	8
Bristol Bay	8
Delta River.....	9
Admiralty	9
GENERAL DISCUSSION	9
Program in general.....	14
Organization of studies	14
Methodology used to prioritize areas of the State	14
Cooperation with other agencies.....	14
PROPOSED PLAN.....	15

TABLES

1. Newly prioritized mining districts	6
2. Draft plan's prioritization of mining districts in Alaska.....	16
3. Mining districts sorted by name.....	19
3. Mining districts sorted by map number	19

FIGURES

1. Newly prioritized mining districts proposed for future study	7
2. Expanded Aniak mining district	9
3. Bristol Bay mining district.....	10
4. Expanded Delta River mining district	12
5. Admiralty mining district.....	13
6. Status of BLM's ANILCA 1010 mineral assessments, mining district studies.....	18

EXECUTIVE SUMMARY

In 1996, the Bureau of Land Management (BLM) assumed responsibility from the U.S. Bureau of Mines for conducting assessments of mineral resources on Federal land in Alaska. This program, authorized by Section 1010 of ANILCA (Alaska National Interest Lands Conservation Act) has been ongoing since the 1980's. This document presents the results of public input into the BLM's decision making process for selecting areas for future mineral assessment studies and the extent of future efforts.

Although special or site-specific studies are required from time to time, the primary thrust of the BLM's mineral assessment program is regional "mining district" studies. The objective of mining district studies are to determine the type, amount and distribution of mineral deposits, and make resource estimates when possible. These studies consist of locating, sampling, surveying and mapping historic mines, prospects and occurrences, and following up on newly discovered mineralization.

In April, 1999, the BLM released a report entitled "Bureau of Land Management Mineral Assessment in Alaska - Developing a plan for completing BLM's ANILCA Section 1010 responsibilities to conduct mineral assessment of the Federal lands" to solicit public input regarding the BLM's mineral assessment program. Comments covered the program in general, the organization of mineral assessment studies, the BLM's methodology for ranking unstudied mining districts for future study, cooperation with other agencies and the nomination of areas for future study. The BLM's initial prioritization ranked mining districts according to those that have the highest numbers of existing mining claims and known mineral occurrences. Using this approach, the Circle and Fairbanks mining districts were ranked with the highest priority for future study (Table 2, Figure 2). Following public input regarding the initial ranking, the Circle and Fairbanks districts were reduced in priority.

Currently, studies are underway in the Stikine and Koyukuk areas, and ground follow up is planned in the Ketchikan area where a geophysical survey has recently been flown. After completion of this work, the BLM plans to undertake further mining district studies. Based upon the BLM's initial ranking of the remaining unstudied mining districts in Alaska and public input, the next mining districts to be studied will be the Aniak, Bristol Bay, Delta River, and Admiralty districts (Table 1, Figure 1). Beginning in 2002, the Anchorage office will initiate a multi-year study of the expanded Aniak district (Figure 2) and the Juneau Office will begin a study of the Delta River district (Figure 4)

The BLM will continue to conduct special studies that from time to time are necessitated by specific events or issues. Special mineral assessment and economic studies might involve lands slated for land exchanges, in support of specific land planning needs, or other public purposes. Depending on funding and personnel availability, special studies might require changes to this proposed schedule.

INTRODUCTION

In 1996, Congress transferred the U.S. Bureau of Mines offices in Juneau and Anchorage, Alaska to the Bureau of Land Management (BLM). Funding was allocated for assessment of the mineral potential of Federal lands in Alaska as required by Section 1010 of ANILCA (Alaska National Interest Lands Conservation Act). During 1996, the BLM evaluated the capabilities and mission of the new staff, as well as its own minerals mission and capabilities to determine how best to integrate the new organization into BLM's Alaska operations.

In October 1997, the BLM finalized the integration by merging the new staff in Anchorage with its state office's lands and minerals staff to form a new branch. The new BLM office in Juneau was set up as a separate branch office. Both offices contain a mineral assessment team and report directly to BLM's Deputy State Director of Lands, Minerals and Resources.

As part of this reorganization, the BLM desired to create a plan for completing the "mineral assessment" work required by Section 1010 of ANILCA. During 1998, a mineral assessment workgroup made up of BLM's mineral assessment staff was organized to develop a draft plan. The draft was released by the BLM in April, 1999 as "Bureau of Land Management Mineral Assessment in Alaska - Developing a plan for completing BLM's ANILCA Section 1010 responsibilities to conduct mineral assessment of the Federal lands" (BLM, 1999). The draft plan was distributed to regional native corporations, Federal and State land managers and other interested parties with the intent of obtaining input from the various customer groups that make use of mineral assessment studies in Alaska. Mineral assessment staff members were made available for presentations and discussion of the draft plan.

The draft plan discussed what mineral assessments are, how they are organized and approached, and prioritized the remaining areas of Alaska where future mineral assessments may be conducted. The principal areas that were identified for study were discussed in detail. The draft plan proposed to complete the BLM's Section 1010 responsibilities for large regional "mineral assessment" studies, except for site specific and maintenance work. A process was outlined for public comment and review by potential customers.

This report incorporates the written comments received regarding the draft plan. General comments about the BLM's mineral assessment program are presented along with a new prioritization of mining districts for future study. A specific plan is presented that describes the schedules of the Anchorage and Juneau offices for mineral assessment studies in the next two mining districts. Subsequent mining district studies are also discussed. We anticipate that this plan for future studies will be reviewed and public input solicited again in about five years.

MINERAL ASSESSMENTS

To understand the intent of Congress concerning mineral assessments in Alaska, one needs to understand some background. The current approach for mineral assessment began to take form when in 1964 the Bureau of Mines and the U.S. Geological Survey (USGS) were authorized to

undertake "mineral surveys" of proposed and existing wilderness and primitive areas. The Bureau of Mines conducted a number of studies in conjunction with the USGS.

In 1980, ANILCA authorized the continued assessment of minerals on public lands to expand the mineral information database. Having developed an extensive capability to mount large-scale field investigations and with this Congressional support, the Bureau of Mines undertook long-term projects called "Mining District Studies."

The Bureau of Mines approach to evaluating mineral resources in a mining district required having geophysical and geochemical data, as well as geologic mapping available for an area. The Bureau of Mines relied on the USGS and the Alaska Division of Geological and Geophysical Surveys to supply this information, and where it was not available the Bureau of Mines sponsored this initial work.

The Bureau of Mines' Mining District Studies then build on this foundation and had three components: 1) a field survey of known and suspected mineral deposits, 2) economic feasibility studies, and 3) where needed, engineering and environmental studies.

To date, a number of mining district studies have been completed and others are in progress (see Figure 1). Currently, the BLM is conducting studies of the Kupreanof and Petersburg mining districts in southeast Alaska, and the Koyukuk mining district in the north central part of the state.

Recently airborne geophysical surveys have been used for obtaining greater understanding of the geology and mineral resources on Federal lands. The BLM has been a partner in airborne geophysical surveys recently completed near Wrangell in the Kupreanof and Petersburg mining districts, near Wiseman in the Koyukuk mining district, and near Ketchikan and on Prince of Wales Island in the Ketchikan mining district. An airborne survey near Aniak, in the Aniak and Iditarod mining districts is expected to be completed by the fall of 2000.

The current mineral assessment approach is to:

- Conduct general field surveys of metallic and industrial mineral deposits on a mining district scale,
- Conduct cost and economic feasibility studies, and engineering and environmental studies of particular types of mineral deposits in mining districts,
- Conduct site specific studies of particular deposits, which may address geological, geophysical, mineral resource, environmental, engineering, land planning and/or regulatory issues,
- Publish the results of all studies, and ensure wide distribution and awareness of this work to our various customer groups.

In addition, on-going work will include:

- Issue-oriented studies as needed,
- Updating completed mining district studies as needed,

- Respond to inquiries concerning mineral resources in Alaska.

Aggregated, these areas of work can be characterized as the ANILCA Section 1010 Mineral Assessment studies authorized by Congress. In addition, the BLM has authority to conduct land management studies on Federal public lands, such as mineral inventories (Section 102 of Federal Land Policy and Management Act).

The BLM will continue approaching Alaska mineral assessment work from a mining district point-of-view. Mineral assessment studies could be based on other geographic boundaries, such as USGS quadrangles, however, the mining district approach has advantages. Mining district outlines are largely based on watershed boundaries. This fits well with the eco-system approach to land evaluation and planning being used by land management agencies. Although a suggestion was made to expand mineral assessment studies to a more regional framework, most commentors on the BLM's draft plan supported the current mining district approach. Future BLM mining district studies will use a flexible definition of historic mining districts. Study boundaries will be adjusted when it makes sense to include or delete adjacent areas, particularly based on mineral terranes and land status.

PRIORITIZATION OF MINING DISTRICT STUDIES

Although special or site specific studies are required from time to time, the primary thrust of the BLM's mineral assessment program is regional mining district studies. Therefore, the primary interest in planning for the completion of this work is the ranking of Federal lands in Alaska that have not been evaluated to date. In the past, priorities were developed for mining district studies by consulting with other Federal agencies, such as the BLM and the Forest Service, as well as guidance from the congressional delegation and other interested parties.

The BLM's mineral assessment workgroup first prioritized mining districts in Alaska according to their "potential for future mineral production." To do this, the group evaluated various methods of prioritizing mining districts. After evaluating several approaches, the workgroup developed a simple method using numbers of known mineral locations and active mining claims to create a preliminary prioritization of mining districts. Table 2 shows a result of this ranking of the 75 mining districts in Alaska.

The number of known mineral locations within a mining district was taken from the Mineral Industry Location System (MILS) database. This database contains most of the known mineral occurrences in Alaska. The mineral assessment workgroup believed this figure was a good measure of past mineral activity. The workgroup thought that the number of currently-active state and Federal mining claims in a mining district gave a good representation of where current exploration interest and activity is located.

Of the top 25 mining districts, 10 have been or are being studied. These include Juneau, Ketchikan, Valdez Creek, Koyukuk, Fortymile, Hope, Prince William Sound, Chichagof, Kupreanof, and Kantishna (Figure 2). The remaining 15 districts that have not been studied are

the Fairbanks, Circle, Admiralty, Bristol Bay, Delta River, Nome, Bonnifield, Yentna, Willow Creek, Hot Springs, Innoko, Fairhaven, Tolovana, Aniak, and Chistochina districts (Figure 2).

In the BLM's draft plan, the 15 top-ranked districts were reviewed in light of other factors besides the mineral locations and mining claims used in the initial prioritization. These included the distribution of mineral locations, mineral terranes and land status for each mining district. A discussion of these factors in each of the 15 top-ranked districts was provided in the "Discussion of highest-ranking unstudied mining districts" section of the draft report. This section also discussed the reasoning for adjusting various mining district boundaries.

A number of comments were received from reviewers of the BLM's draft mineral assessment plan regarding the prioritization of district studies and nominating additional districts for assessment. These comments have been included in the modified prioritization presented in this document. The prioritization method used to incorporate reviewers' comments assigned a "+1" for each reviewer's nomination of a mining district and a "-1" for each negative comment regarding the study of a mining district. A "+1" was also assigned for each of the top 15 mining districts prioritized by the BLM in the draft long range plan (Table 1, Figure 1).

Favorable comments from reviewers resulted in the Aniak and Bristol Bay districts rising to the top of the updated prioritization list. The comments also resulted in a de-emphasis of the Circle and Fairbanks districts. Additional districts nominated that were not part of the BLM draft plan's top 15 districts are: Council, Kougark, Koyuk, Goodnews Bay, Hughes, Iditarod, Juneau, Marshall, McGrath, Melozitna, Nelchina, Nizina, Port Clarence, and Shungnak. At least parts of some of these districts are included in the 'expanded' mining districts that the BLM has proposed for mineral assessment studies, e.g., expanded Aniak district (Figure 3).

For the mining districts that were not in the BLM's draft plan top 15 or that were not nominated by public comments, the BLM does not recommend conducting large-scale mining district studies, but rather will approach these areas on an issue-specific basis. Issues might include land management issues, commodity-specific studies, and other concerns.

Table 1. Newly prioritized mining districts

		REVIEWER'S COMMENTS	BLM DRAFT PLAN'S	TOTAL SCORE
		Subtotal	Top 15	
1	Aniak	4	1	5
2	Bristol Bay	4	1	5
3	Delta River	3	1	4
4	Admiralty	2 (3 + (-1) = 2)	1	3
5	Fairhaven	2	1	3
6	Bonnifield	1	1	2
7	Willow Creek	1	1	2
8	Innoko	1	1	2
9	Chistochina	1	1	2
10	Council	2		2
11	Kougarok	2		2
12	Koyuk	2		2
13	Goodnews Bay	1		1
14	Hughes	1		1
15	Iditarod	1		1
16	Juneau	1		1
17	Marshall	1		1
18	McGrath	1		1
19	Melozitna	1		1
20	Nelchina	1		1
21	Nizina	1		1
22	Port Clarence	1		1
23	Shungnak	1		1
24	Nome		1	1
25	Yentna		1	1
26	Hot Springs		1	1
27	Tolovana		1	1
28	Circle	-1	1	0
29	Fairbanks	-2	1	-1

HIGHEST-RANKING NEWLY PRIORITIZED MINING DISTRICTS

The following is a discussion of the four mining districts, unstudied by the Bureau of Mines or BLM, that ranked highest for mineral assessment in the present prioritization. Factors discussed include the percentages of Federal, state and private lands within the mining district, how the land status corresponds to past and present minerals development activity, the presence of known mineral locations (MILS points), the percentage of all Federal mining claims in Alaska and the percentage of all state mining claims. Federal ownership is broken down by managing agency, including the BLM, National Park Service (NPS), Fish and Wildlife Service (F&WS), and Forest Service. Significant geologic terranes and mineral production are noted. Proposals to expand mineral assessments beyond the immediate boundaries of the mining districts are presented. The degree of support expressed in public comments regarding mineral assessment priority of the district is also presented. A preliminary conclusion is made concerning each district.

Discussions are presented for only the top four mining districts and are listed in the order of priority described in the previous section and shown on Table 1. Generalized maps are included that show land ownership, active mining claims, and mineral deposit locations for each district (Figures 2-5).

1. **Aniak** : (Figure 2 - Aniak district combined with adjacent areas in the McGrath, Innoko, Iditarod, Anvik, and Marshall districts). The Aniak district includes 1.3% active State claims and 0.6% active Federal claims. About 57% of the area is State land, 15% Native, mainly along the Kuskokwim River, 15% F&WS, 9% BLM, and 3% NPS. The F&WS land is managed as a Preserve/Refuge. Most mineral activity is on State land. Even the Federal claims are mostly on State or Native land. There is very little mineral activity on the BLM land and only a little activity on the F&WS land. A study of the district should be combined with an investigation of the mineralized and/or Federal lands in the adjacent McGrath, Innoko, Iditarod, Anvik, and Marshall districts (see Figure 15). Mineral terranes on BLM land are comprised of mafic volcanic rocks including an ophiolite terrane, as well as granitic rocks. These terranes are associated with vein deposits of gold and mercury. The Donlin Creek property is situated within the Aniak district. Resources at Donlin Creek have been estimated as up to 11 million contained ounces of gold related to granitic intrusives. There is some placer gold potential in the area as well. The Aniak and Bristol Bay mining districts received the most public support in comments on the BLM's draft mineral assessment plan.

2. **Bristol Bay** : (Figure 3) The Bristol Bay district ranks high because of a single large group of State claims, specifically those of the Pebble Copper property. It includes 8.2% of active State mining claims, but only 0.02% of active Federal mining claims. Although about 45% of the land is Federal, only 6% of the land is BLM managed and almost no MILS or active claims are situated on the BLM land. The other Federal land in the district is managed by the F&WS (15%) and the NPS (23%). Pebble Copper is a porphyry deposit associated with an intermediate granitic mineral terrane. The BLM land in the area is not associated with the granitic terranes in the district. Granitic terranes do coincide with Federal land, but are mostly found on F&WS and NPS lands. The Bristol Bay and Aniak districts received the most public support in comments on the BLM's draft mineral assessment plan.

3. **Delta River** : (Figure 4, includes northern part of Chistochina district) This district includes about 4.5% of both the active Federal and State mining claims. About 63% of the district is made up of State land, with about 36% Federal, less than 1% Native and about 1% private land. Twenty-five percent of the district belongs to the military and about 11% to the BLM. Most mineral activity is concentrated on State land. Nonetheless, a significant proportion of the active claims are included in the area of the BLM managed Federal land, outside the military holdings. The Delta River district is adjacent to the Goodpaster district, which contains the recently discovered Pogo gold deposit. MILS locations are generally concentrated on mineral terranes of mafic volcanic and ultramafic rocks. There is potential for VMS deposits as well as other types including: skarn, mafic-ultramafic related, porphyry, and vein. There has been minor placer gold production from the district as well. Based on the minerals distribution and Federal land, the Delta River district has a high priority for mineral assessment. It received the second highest number of nominations on the BLM's draft mineral assessment plan. It is recommended that the northern part of the Chistochina district be included with the study of the Delta River district (see Figure 6).

4. **Admiralty** : (Figure 5) The Admiralty district contains the most active Federal claims of any unstudied district in Alaska (12.9%). It has about 0.2% of the State claims. Eighty percent of the district is made up of Federal land; much of it is included within the Admiralty National Monument. About 14% of the district is Native land, less than 1% State, and about 5% private. The Admiralty district includes the only operating mine in southeast Alaska, the Greens Creek Mine, which is the largest silver producer in the United States. The Greens Creek Mine is within the Admiralty National Monument as are additional active claims (Pyrola claims). Most MILS and claim locations are within a terrane of mafic volcanic rocks. This unit makes up about 30% of the district. The Admiralty district has a high priority for mineral assessment, based on the numbers of Federal claims and the prospective mineralized terrane. The Admiralty district received three positive comments and one negative comment on the BLM's draft mineral assessment plan.

GENERAL DISCUSSION

Written responses to the BLM's draft plan for mineral assessment studies in Alaska were received from both the private and government sectors. Comments were received from five individuals, two mining association representatives, six regional Native corporations, three federal and state agencies, and one municipal government.

The responses covered five areas: the program in general, how the studies are organized, the methodology used to prioritize areas of the State, cooperation with other agencies, and nominations of districts for future study. The district nominations have already been discussed in this report and have been incorporated in the new mining district prioritization presented in Table 1. The following section presents the essence of comments received regarding the other

four areas.

Program in general

All comments regarding the mineral assessment program were positive. Comments ranged from how the program has added to the understanding of Alaska's mineral resource endowment, to how it has played a significant role over the years and aided in several recent discoveries, to how the baseline data generated helps the mining industry.

There was interest as to how the economic analysis portion of the program could be utilized in the revision of 3809 regulations. Concern was also voiced that the mineral assessment function would be assimilated and eroded within BLM.

Organization of studies

Comments were received as to how the BLM organizes and operates the studies. Responses ranged from personnel issues, to cooperation among other minerals oriented agencies, to defining the studies using a more regional framework instead of mining districts. Concerns noted the number of professionals assigned to a mineral assessment study and asked that a sufficient number be involved so as not to sacrifice the quality and quantity of data obtained. A comment was made regarding the availability and possible funding for the USGS and the State DGGs to cooperate in the assessments.

Methodology used to prioritize areas of the State

At least half of the respondents had comments on the prioritization approach used in the long range plan. Some of the comments conflicted with each other. Some comments concurred with the methodology, while others wanted areas of current interest weighed more heavily. Comments ranged from believing that rural and remote areas were under represented, to preferences for concentrating on districts with the best infrastructure. Some respondents recommended emphasizing land availability, historic production, and lack of modern data in the prioritization process.

Cooperation with other agencies

Respondents stressed the continued need to cooperate with state and federal agencies, along with local communities, to maximize productivity and ensure successful mineral assessments.

PROPOSED PLAN

The BLM proposes to continue the mineral assessment studies that are currently in progress. Field work for the Koyukuk mining district in northern Alaska, and the Kupreanof and Petersburg mining districts of southeastern Alaska will be completed in 2000. Follow up work on the recent geophysical surveys in both areas will also continue. Final reports covering the

Koyukuk and Kupreanof/Petersburg mineral assessment studies will be completed in 2001.

Based on the approach and prioritization of mining districts developed in this document, the BLM will conduct multi-year mining districts studies in the districts ranked in the preceding section and in the relative order of importance as listed in Table 1. Plans call for the Anchorage office to initiate a multi-year study in 2002 of the expanded Aniak district (Figure 2), which includes parts of the McGrath, Innoko, Iditarod, Anvik, and Marshall districts. Following a one year follow up study of the Ketchikan geophysical survey area, the Juneau office will begin a study of the Delta River mining district (Figure 4) in 2002. Following completion of these district studies, mineral assessments will be conducted of the Bristol Bay and Admiralty mining districts.

The BLM will continue to conduct special studies that from time to time are necessitated by specific events or issues. Special mineral assessment and economic studies might involve lands slated for land exchanges, in support of specific land planning needs, or other public purposes. Depending on funding and personnel availability, special studies might require changes to this proposed schedule.

Table 2. Draft plan's prioritization of mining districts in Alaska.
Percentages of State and Federal mining claims, and MILS points in Alaska, plus combined figure.

District Districts studied or being studied are shown in bold type	Percent State Claims	Percent Federal Claims	Percent MILS*	(% State + % Federal Claims) * % Mineral Locations
FAIRBANKS	21.4	3.6	4.5	113.3
JUNEAU	3.0	14.1	5.7	98.2
KETCHIKAN	0.3	11.5	6.8	80.2
CIRCLE	5.6	4.2	4.3	42.4
VALDEZ CREEK	5.2	5.1	3.8	39.3
KOYUKUK	1.8	6.3	4.4	35.1
FORTY MILE	3.5	2.4	2.5	14.7
ADMIRALTY	0.2	12.9	0.9	12.2
BRISTOL BAY	8.2	0.0	1.2	10.0
HOPE	0.3	3.3	2.6	9.5
DELTA RIVER	4.4	4.6	1.0	9.1
NOME	2.2	0.4	3.5	9.1
BONNIFIELD	3.6	0.4	2.2	8.8
YENTNA	3.2	1.0	1.3	5.6
WILLOW CREEK	1.5	0.5	2.5	5.0
HOT SPRINGS	2.7	1.2	1.2	4.6
PRINCE WILLIAM SOUND	0.4	0.3	5.3	3.8
CHICHAGOF	0.0	1.1	3.1	3.7
KUPREANOF	0.1	3.5	1.0	3.5
INNOKO	2.3	1.1	0.9	3.0
FAIRHAVEN	1.7	0.4	1.5	3.0
TOLOVANA	2.4	0.9	0.9	3.0
KANTISHNA	0.1	1.2	2.2	2.9
ANIAK	1.3	0.6	1.4	2.8
CHISTOCHINA	0.9	0.1	2.7	2.8
COUNCIL	1.1	0.1	2.2	2.5
RUBY	2.0	0.4	0.9	2.3
KOUGAROK	0.7	0.8	1.4	2.0
MCGRATH	0.7	0.8	1.3	2.0
CHISANA	0.0	1.3	1.5	1.9
GOODPASTER	4.1	0.0	0.4	1.7
NIZINA	0.0	1.4	1.2	1.6
NELCHINA	0.8	0.1	1.4	1.4
TOK	2.5	0.0	0.5	1.3
RAMPART	0.9	1.5	0.5	1.3
CHANDALAR	1.4	0.0	0.8	1.2
LISBURNE	1.0	4.0	0.2	1.1
EAGLE	1.5	0.1	0.7	1.1
NOATAK	2.3	0.2	0.4	1.0
IDITAROD	1.1	1.5	0.4	0.9

KODIAK	0.9	0.0	1.0	0.8
ANCHORAGE	0.2	0.3	1.5	0.8
HYDER	0.0	0.8	0.9	0.7
PETERSBURG	0.0	0.4	1.8	0.7
KIANA	0.5	0.5	0.7	0.7
GOODNEWS BAY	0.0	1.6	0.4	0.7
SHUNGNAC	0.2	0.4	0.8	0.5
YAKATAGA	0.2	0.8	0.5	0.5
PORT CLARENCE	0.3	0.7	0.5	0.5
KOYUK	0.1	0.4	0.7	0.4
MELOZITNA	0.5	0.0	0.7	0.4
REDOUBT	0.4	0.0	0.9	0.3
SERPENTINE	0.2	0.4	0.4	0.2
ALASKA PENINSULA	0.2	0.0	0.8	0.2
HUGHES	0.0	0.4	0.3	0.1
HOMER	0.0	0.0	1.2	0.0
KAIYUH	0.0	0.2	0.1	0.0
ANVIK	0.0	0.0	0.2	0.0
SEWARD	0.0	0.0	0.3	0.0
MARSHALL	0.0	0.0	0.2	0.0
SHEENJEK	0.0	0.0	0.2	0.0
ALEUTIAN ISLANDS	0.0	0.0	0.2	0.0
BARROW	0.0	0.0	0.3	0.0
BERING SEA	0.0	0.0	0.2	0.0
BETHEL	0.0	0.0	0.3	0.0
BLACK	0.0	0.0	0.1	0.0
CANNING	0.0	0.0	1.1	0.0
COLVILLE	0.0	0.0	0.9	0.0
SELAWIK	0.0	0.0	0.1	0.0
WAINWRIGHT	0.0	0.0	0.2	0.0
YAKUTAT	0.0	0.0	0.8	0.0
YUKON FLATS	0.0	0.0	0.1	0.0
Total	100.0	100.0	100.0	

* Mineral Industry Location System database